

NAVIGATION.

Height of Rivers.—Upon chart No. III is a table giving the highest and lowest water-marks, with the dates upon which they occurred. The highest water at Nashville on the 25th was 3 feet 11 in., the figures in the table being in error. At Pittsburgh, navigation in general suspended on account of low water, 21st; 31st, a few boats left, but the slight rise was not sufficient for a resumption of navigation.

TEMPERATURE OF WATER.

As heretofore, the maximum and minimum temperatures alone, with the average depth of the water, are given in the table on chart No. II.

ATMOSPHERIC ELECTRICITY.

Thunder-storms.—The dates, states, accompanied by hail, and number of stations, when more than one, in each, are as follows: 1st, Ala.; Cal.; Ill.; Nev.; N. Y. 4th, N. Y.; Tenn.; Texas. 5th, Iowa, 2; Mich.; Minn.; Texas. 6th, Mass. 7th, Fla.; Me. 8th, Ariz. 9th, Mich., 2. 10th, Col.; N. M. 11th, Ariz.; Idaho; M. Ty.; Nev.; Utah. 12th, Ariz.; Utah, 2. 13th, Ill.; Kan., 2; Mich.; Mo.; Neb., 3. 14th, Md., 2; Penn.; Texas. 15th, N. J., 2; Utah. 17th, Or.; Utah. 18th, Ind. Ty.; La., 2; Miss.; Or.; Texas; Utah. 19th, Ark.; Ill., 2; Ind. Ty., hail; Kan., 5; Or. 20th, Ind.; Iowa, 2; Mich.; Miss., 2; Mo.; Ohio; Wis., 2. 21st, Ark.; Ind.; Ky.; La.; Or.; Tenn., 2; Texas. 22nd, Ala.; Ohio, 2; Penn., 2; Tenn., 2. 24th, Tenn. 25th, Me. 26th, Wis. 27th, Ind.; Kan.; Ky.; Mich. hail, 6; Ohio, 3; Texas; Wis. 28th, Cal.; Ill., hail, 4; Ind., 7; Iowa; Mich., hail, 4; Ohio, 10; Penn., 2. 29th, Ill., 4; Ind., 5; Iowa, 2; Ky., 2; Ohio, 30th, Ill., 2; Ind.; Kan.; Mich. 31st, Ill., 6; Ind., hail, 2; Iowa, 3; Kan., hail, 8; Mich., hail, 4; Mo.; N. Y., 2; Ohio, 2; Texas; Wis., 2.

Auroras.—5th, Lunenburg, Vt. 6th, Vevay, Ind.; Strafford, Vt. 8th, Spiesland, Ind. 9th, St. Paul, Minn. 10th, Monticello, Iowa; Woodstock, Vt.; Buffalo and Malone, N. Y.; Bismarck and Pembina, Dak.; Duluth and St. Paul, Minn.; Port Huron, Mich. 11th, Afion, Iowa; Toledo, Ohio. 12th, Auburn, N. H. 13th, Rockford, Iowa. 16th, Malone, N. Y. 17th, Ft. Brady, Mich.; Buffalo, N. Y. 18th, Nora Springs, Iowa; Vallecitas, Cal. 19th, Lunenburg, Vt. 20th, Malone, N. Y. 25th, Rocky Run, Wis. 26th, N. Y. City.

OPTICAL PHENOMENA.

Solar Halos.—1st, Kan. 2nd, Tenn. 3rd, Ohio; Tenn. 4th, Kan.; Ohio; Wis.; Ill.; Col.; R. I. 5th, Ill.; Me.; Ohio; S. C.; Mich.; N. H. 6th, Tenn.; S. C.; Wy. Ty.; Col.; N. C. 7th, Ga.; N. C.; Tenn. 8th, Md.; Tenn.; N. J. 9th, Ill.; N. Y.; Va.; N. J.; Tenn. 10th, Col.; Del.; Mass.; N. Y.; Va.; N. J.; N. C.; R. I.; N. H. 11th and 12th, N. Y. 13th, Iowa; Kan.; Mich.; N. H.; Minn.; N. Y. 14th, La.; Miss. 16th, Wy.; Col.; N. Y.; Cal. 17th, Ga.; Iowa. 19th, Ohio. 20th, Me.; Mass.; N. H.; R. I. 21st, Mich.; R. I. 23rd, Cal. 25th, Neb.; Wis.; Minn. 26th, Tenn.; Cal. 27th, Ill.; Iowa; N. C.; Tenn.; Wis.; Col. 28th, Ill.; N. Y.; Ohio; Tenn. 29th, Tenn.; N. Y. 30th, Ill.; N. H.; Tenn.; N. Y. 31st, Tenn.

Lunar halos.—1st, Iowa, N. Y., Ohio, Wis., Conn., N. C. 2nd, Ill., Iowa, N. Y., N. C., Tenn., Ala., Conn., Penn., Mo., Or.; 3rd, Iowa, Dak., Fla., Penn., Ala., Conn., N. C., Ohio. 4th, Col., Iowa, Neb., Ohio, N. C., D. C., Cal.; 5th, Me., Miss., N. H., N. Y., Ohio, Tenn., Ala., D. C.; 6th, Ga., N. C., S. C., Tenn., Me., Ala., N. M.; 7th, Ga., N. C., Tenn., Va.; 8th, Ill., N. C., N. J.; 9th, N. J., Va.; 10th, Ga., Ky., N. Y., W. Va., D. C.; 12th, Ill.; 16th and 17th, Ill.; 18th, Ky.; 21st, Ky., Tenn.; 24th, Ky., Neb., Me., Mo., N. C., N. J.; 25th, Ill., Mo., N. C.; 26th, Iowa, N. H., Wis., Minn., N. C.; 27th, Ill., Iowa, Mass., Mich., N. H., N. Y., Ohio, Penn., Tenn., Wis., Dak., Me., Ind., Conn., N. M., La., N. C.; 28th, Ill., Ind., Mass., Ohio, Tenn., Dak., Me., Ky., Ala., N. C.; 29th, Iowa, N. Y., Ohio, Tenn., Ga., Kan., Me., Ind., Ty., Ala., Mo., N. C.; 30th, Col., Ill., Tenn., Ind., Ty., Ala., Conn., Mo., N. C., R. I.; 31st, Ill., Mich., Neb., N. J., Ohio, Tenn., Ind., Ty., Ind., Ala., La., N. C., Miss.

Mirage.—Fort Yuma, Cal. 6th; Golden, Col., 25th; Great Bend, Kan., 1st, 6th, 15th, 23rd, 24th and 25th; Sedgewick, Kan., 23rd; Breckenridge, 13th, 15th and 16th; New London, 13th and 19th.

MISCELLANEOUS PHENOMENA.

Zoological.—*Wild Geese* were observed flying SW. at Cincinnati on the 31st; Charleston, S., 14th; Corsicana, S., 12th and 13th; Breckenridge, S., 7th; Dubuque, S., 11th and 13th; Fort Gibson, S., 10th, 14th and 30th; Morgantown, S., 27th; Shreveport, S., 13th; Sandy Hook, S., 14th; Washington, S., 4th and 10th. E., 14th; Fort Randall, Dak., S., 3rd and 21st; Lower Brule Agency, Dak., S., 19th and 25th; Fort Hartsuff, Neb., S., 27th; Carbondale, Ill., SW., 4th; Laconia, Ind., S., 12th; St. Meinrad, Ind., S., 14th; Wabash, Ind., S., 25th; Afion, Ia., S., 3rd and 12th; Monticello, Ia., S., 11th; Le Roy, Ks., S., 3rd; Great Bend, Ks., S., 20th; Bennettsville, Ky., S., 14th; Somerset, Mass., S., 12th; Fall River, Mass., S., 31st; Brookhaven, Miss., S., 16th; Plattsburgh, Neb., S., 1st; Carson City, Nev., S., 12th and 13th; Waterburgh, N. Y., S., 28th; Palermo, N. Y., SW., 11th; Attaway Hill, N. C., S., 12th and 13th; Bellefontaine, O., S., 31st; Carthagena, O., S., 7th and 14th; Jacksonburgh, O., S., 11th; Tioga, Pa., S., 22nd; Franklin, Pa., SE., 30th; Emporium, Pa., S., 8th and 14th; Belmont Farm, Tex., S., 3rd, 8th and 21st; Gilmer, Tex., S., 4th; Kanab, Utah, S., 2nd; Prospect Hill, Va., 13th; Accotink, Va., S., 11th; Embarrass, Wis., S., 9th, 10th and 11th; Wantoma, Wis., 16th; Urica, Wis., S., 9th, 17th and 18th. *Wild Ducks*, flying N., at Nashville, 4th; Cape Hatteras, S., 28th; Fort Brady, Mich., S., 6th; Golden, Col., SE., 12th; Fort Madison, Ia., N., 16th; Jacksonburgh, O., S., 27th; Monticello, Ia., 24th. *Brants*, seen at Fort Madison, Ia., 1st and 11th; abundant at Great Bend, Kan., 12th. *Cranes*, seen at

Fort Madison, Ia., 24th; flying S. at Breckenridge, 7th; Le Roy, Kan., S., 12th; Great Bend, Kan., S., 18th; Belmont Farm, Tex., S., 13th. *Snowbirds*, seen at Eastport, 8th; Bethel, O., 27th and 28th. *Blackbirds*, seen at Wautoma, Wis., 25th; flying south at Dubuque, 22nd; Palermo, N. Y., southwest, 7th. *Bluebirds*, flying south, at Monticello, Iowa, 9th; Wappinger's Falls, New York, large flocks south, 1st. *Swallows*, last seen at Carthagen, O., 3rd. *Robins*, last seen at Tioga, Pa., 20th; West Charlotte, Vt., 19th; numerous at Stratford, Vt., 17th. *Meadow Larks*, seen at Wautoma, Wis., 15th. Charleston, S. C., visited by several species of strange birds on 31st. *Grasshoppers* were reported numerous at Cincinnati on the 22nd; a few flying S. E. at Cheyenne, 3rd; numerous at Corsicana, 3rd to 5th, disappearing about 9th; abundant at Belmont Farm, Tex., 1st to 9th; numerous and destructive at times during month at LeRoy and Baxter Springs, Kan.; reported nearly all gone at Creswell, Kan., 19th, and Council Grove, Kansas, 31st; flying N. E. at Golden, Col., 2nd; summit of mountains near Denver covered with many thousand bushels of dead grasshoppers.

Meteors.—6th and 7th, Waterburgh, N. Y. 8th, Somonauk, Ill.; Standish, Me.; Somerset, Boston and Wilbraham, Mass.; Brookhaven, Miss.; Westminster, Vt.; New London, Conn. 9th, Wabash, Ind. 10th, Monticello, Iowa; Great Bend, Kan.; Benettsville, Ky.; La Crosse, Wis. 11th, Gardiner, Me.; Woodstock, Md.; Buffalo, N. Y. 12th, Woodstock, Md. 13th, Woodstock, Md.; Florida, Mass. 14th, Mayport, Fla.; Afton and Davenport, Iowa; Corning, Mo.; Cape Lookout, N. C. 15th, Wabash, Ind. 16th, Monticello, Iowa; Woodstock, Md.; Brookhaven, Miss.; Corning, Mo.; Freehold, N. J. 17th, Wabash, Ind.; Florida, Mass. 18th, Durham, Ark.; Benettsville, Ky.; Woodstock, Md.; Northport, Mich.; Waterburgh and Hector, N. Y.; Salem, West Va.; Indianapolis, Ind. 19th, Woodstock, Md.; New Bedford, Florida and Fall River, Mass.; Urbana and Wooster, Ohio; Westminster, Vt.; Wautoma, Wis.; N. Y. City; Newport, R. I. 20th, Golden, Col.; Woodstock, Md.; Waterburgh, N. Y.; New London, Conn. 21st, Golden, Col.; Wabash, Ind.; Benettsville, Ky.; Mt. Auburn, Ohio; Jacksonville, Fla. 22nd, Corning, Mo.; Charleston, S. C. 23rd, St. Louis, Mo. 24th, Golden, Col.; Afton, Iowa; Benettsville, Ky.; Springfield, Mass. 25th, Monticello, Iowa; 26th, Standish, Me. 27th, Fall River and Springfield, Mass. 28th, Wabash, Ind.; Fall River, Mass.; Emerson, Neb. 29th, LeRoy and Great Bend, Kan. 30th, Somonauk, Ill.; Jacksonville, Fla.; St. Louis, Mo. 31st, Aiken, S. C.; Augusta, Ga.

Earthquakes.—Severe shock felt at San Francisco, 9:20 p. m. 6th, lasting about ten seconds, motion from NW. to SE.; a second and lighter shock at 10:8 p. m. same day. The former was also felt at Oakland, San Jose and Angel Island, Cal., with an oscillatory motion.

Prairie Fires.—Seen from Pike's Peak, 1st, 28th; Pembina, 1st, 14th, 15th, 22nd, 23rd, 24th, 25th, 26th, 30th; Creswell, Kan., 5th, 29th; Lake Charles, La., 8th, 14th; Breckenridge, 8th, 9th, 14th, 15th, 16th, 17th, 18th, 19th, 27th, 31st; Bismarck, 9th, 13th, 28th, 29th, 30th, 31st; Lower Brule Agency, Dakota, 15th; in West Township, McLean co., Ill., 1,000 acres burned over, 400 acres of corn destroyed, 19th; Genoa, Neb., (S. and W.), 31st.

Ice-bergs.—Lat. 45° 42' N., long. 49° 13' W., 1st; 46° 10' N., 50° W., 4th.

Polar Bands.—Wis., Milwaukee 1st. Ohio, Carthagen, 3rd, 5th, 13th, 16th, 18th, 21st. Va., Wytheville, 7th. Ky., Benettsville, 7th, 8th. D. C., Washington, 8th. Iowa, Guttenberg, 8th, 16th; Iowa City, 8th, 17th; Nora Springs, 8th, 26th; Tabor, 28th. Miss., Fayette, 20th, 23rd. N. J., Freehold, 29th. Tenn., Nashville, 29th.

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